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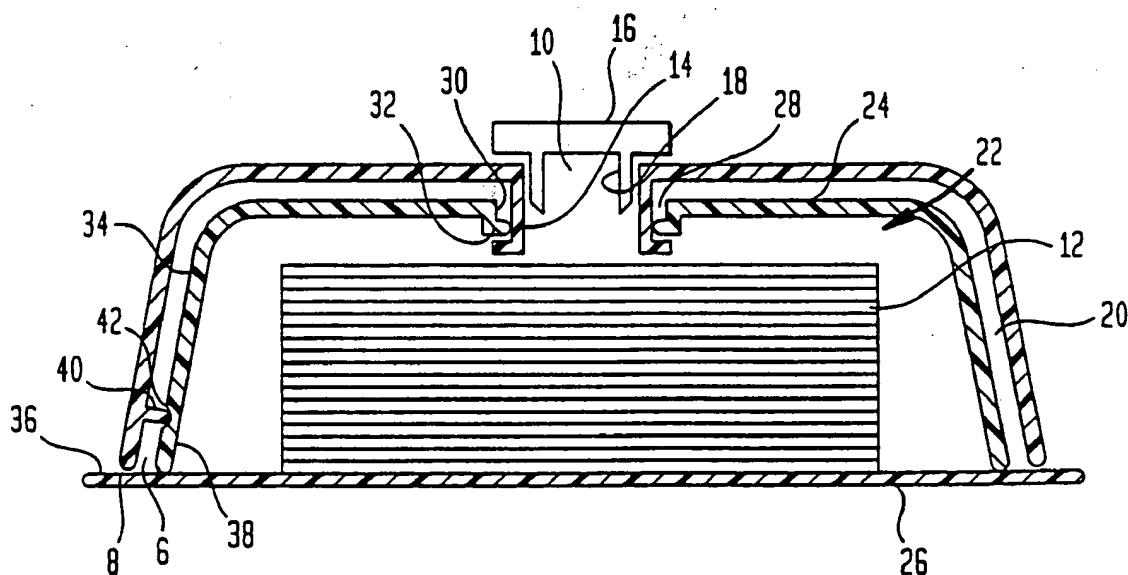
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(71) Demandeur/Applicant:  
UNILEVER PLC, GB  
(72) Inventeurs/Inventors:  
FLAIG, RAYMOND MICHAEL, US;  
TELESCA, JOSEPHINE, US  
(74) Agent: BERESKIN & PARR

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(54) Title: **REFILLABLE TOWELETTE DISPENSING PACKAGE**



(57) **Abrégé/Abstract:**

A toweltette product is provided which includes a stack of flexible toweltettes (12), a refill package (22) for storing the toweltettes and a cover housing (2) surrounding the refill package. The refill package has deck (24) and floor (26) walls in parallel relationship to one another. An aperture in the deck allows access and egress of individual toweltettes and is circumscribed by a rigid mouth (30) with a coupling structure (32). The cover housing is formed with a roof (4) on an upper surface and an open mouth (6) along a lower edge. A dispensing port of the roof is defined by a rigid engagement wall (14) directed downward towards the open mouth and engageable with the coupling structure of the rigid mouth in a sealable relationship to prevent moisture from transferring therebetween. Only a single seal is necessary to both join together refill and cover housing and serve as a toweltette dispensing orifice.

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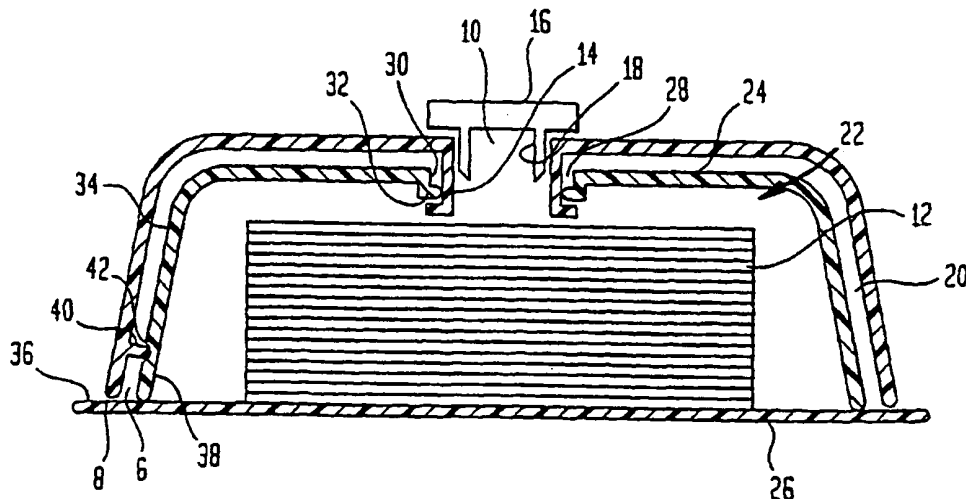
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- (71) Applicant (for AE, AG, AU, BB, BZ, CA, CY, GB, GD, GH, GM, IE, IL, KE, LC, LK, LS, MN, MW, NZ, SD, SG, SL, SZ, TT, TZ, UG, ZA, ZW only): **UNILEVER PLC [GB/GB];** Unilever House, Blackfriars, London EC4P 4BQ (GB).
- (71) Applicant (for all designated States except AE, AG, AU, BB, BZ, CA, CY, GB, GD, GH, GM, IE, IL, IN, KE, LC, LK, LS, MN, MW, NZ, SD, SG, SL, SZ, TT, TZ, UG, ZA, ZW): **UNILEVER NV [NL/NL];** Weena 455, NL-3013 AL Rotterdam (NL).
- (71) Applicant (for IN only): **HINDUSTAN LEVER LIMITED [IN/IN];** Hindustan Lever House, 165/166 Backbay Reclamation, Maharashtra, Mumbai 400 020 (IN).
- (72) Inventors: **FLAIG, Raymond, Michael;** Unilever Home & Personal Care USA, 40 Merritt Boulevard, Trumbull, CT 06611 (US). **TELESCA, Josephine;** Unilever Home & Personal Care USA, 40 Merritt Boulevard, Trumbull, CT 06611 (US).
- (74) Agents: **ROTS, Maria, Johanna, Fran et al.;** Unilever Plc, Patent Department, Colworth House, Sharnbrook, Bedford, Bedfordshire MK44 1LQ (GB).
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(54) Title: **REFILLABLE TOWELETTE DISPENSING PACKAGE**

(57) Abstract: A towelette product is provided which includes a stack of flexible towelettes (12), a refill package (22) for storing the towelettes and a cover housing (2) surrounding the refill package. The refill package has deck (24) and floor (26) walls in parallel relationship to one another. An aperture in the deck allows access and egress of individual towelettes and is circumscribed by a rigid mouth (30) with a coupling structure (32). The cover housing is formed with a roof (4) on an upper surface and an open mouth (6) along a lower edge. A dispensing port of the roof is defined by a rigid engagement wall (14) directed downward towards the open mouth and engageable with the coupling structure of the rigid mouth in a sealable relationship to prevent moisture from transferring therebetween. Only a single seal is necessary to both join together refill and cover housing and serve as a towelette dispensing orifice.

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**REFILLABLE TOWELETTE DISPENSING PACKAGE****BACKGROUND OF THE INVENTION**5 **Field of the Invention**

The invention relates to a towelette product and a refill package for dispensing towelettes.

10 **The Related Art**

Chemically impregnated pads, sheets and tissues (collectively defined as towelettes) are established articles of commerce. They are generally utilized for  
15 personal hygiene, cosmetic purposes and household cleaning applications. Fluid impregnated towelettes require packaging which avoids evaporation of solvents. Dry towelettes impregnated with dry chemical coatings (e.g. surfactant compositions) require exclusion of atmospheric  
20 moisture during storage periods. Problems arise when impregnated towelettes are packed together, for example in a stack, in a common container. If a single item is to be dispensed the container containing the towelettes needs to be resealable to prevent the articles from either drying out  
25 or absorbing unwanted moisture. Notable advances in the art include the following disclosures.

U.S. Patent 5,647,506 (Julius) describes a resealable dispenser for delivering interleaved, individual moisture-  
30 impregnated tissues from a housing having sufficient rigidity to retain its shape subsequent to its manufacture.

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A top wall includes a recess portion provided with an orifice for removing individual tissues from the housing. A resealable flexible label is attached to the outer surface of the top wall and completely covers the recessed portion.

5 In one alternative embodiment, a bottom of the dispenser is provided with a bottom sheet optionally formed of one or more layers of thin synthetic resin film.

U.S. Patent 5,379,897 (Muckenfuhs et al.) discloses a disposable, compactable package for delivering a stack of tissues. The package may be produced as a thermoform. A tabbed resealable label is secured over a bottom area of the package.

15 U.S. Patent 4,790,436 (Nakamura) discloses a resealable dispenser-container for wet tissues. A deformable pouch containing a stack of the tissues is held rigid with the assistance of a shape maintaining member even after most of the tissues have been dispensed. Suitable shape maintaining members include an outer box surrounding the pouch fixed with an adhesive on an undersurface of the box roof which prevents pouch wall collapse. A second embodiment is a U-shaped frame inserted within the pouch. Both of these solutions present either cost or manufacturing difficulties.

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U.S. Patent 5,531,325 (Deflander et al.) describes a pouch for storing interleaved tissues with a resealable flap opening. The pouch is housed in a rigid outer container, which in its closed position is sufficiently air-tight to prevent exchange of air between the contents of the container and the outside atmosphere. An anti-slip member

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such as a glue strip is attached to the pouch and projects through a hole in the bottom of the container to prevent the latter from slipping on a support surface. The air-tight outer container requires considerable plastics material in its construction. This has at least two major drawbacks. The container heavy and the relatively large amount of plastics material means that there are environmental issues related to the disposal of the container.

Commercial expressions of towelette packaging art include a Kao Biore® dispenser of fluid impregnated tissues. An outer relatively rigid case surrounds a relatively soft refill pack of tissues within a flexible foil package. The outer case has a cover portion with top and side walls while a bottom wall is sealably/replaceably snapped onto the underside of the cover. An aperture for dispensing towelettes and a hinged lid are constructed in the top wall of the upper cover. To prevent evaporation of moisture a tight seal between the side walls and the bottom wall as well as a sufficient friction seal of the lid against the aperture is required. It is not always easy to ensure that both types of seals are sufficiently tight. More especially, considerable care is required when sealing the bottom wall with the bottom edge of the side walls because of the relatively large sealing perimeter of the bottom wall. A related package with similar structural problems is also commercially in the Japanese market sold under the Silcot trademark.

It is evident from the foregoing selection of technology that there is a need for improved, more efficient mechanisms

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for ensuring good seals to prevent moisture or solvents from transferring in either direction through the seals.

Accordingly, it is an object of the present invention to  
5 provide a towelette product which can maintain a stack of towelettes hermetically sealed from the atmosphere during extended storage periods, especially after multiple openings for dispensing of individual tissues.

10 It is a further object of the present invention to provide a towelette product, which after having dispensed most of a stack of towelettes can be resealed substantially as effectively as it was sealed in its initial fully filled state.

15 Another object of the present invention is to provide a towelette product in refill form wherein the refill is sufficiently sturdy to stand alone on store shelves without further wrapping such as within a carton.

20

#### SUMMARY OF THE INVENTION

A towelette product is provided which comprise:

a stack of flexible towelettes;

25 a refill package containing the stack of towelettes, the package having walls forming a deck and a floor on respective upper and lower faces in parallel relation to one another, the deck including an aperture allowing access and egress to the stack of towelettes, the aperture being  
30 circumscribed by a rigid mouth with a coupling structure; and

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a cover housing having an internal cavity, the housing forming a roof on an upper surface and an open mouth along a lower edge opposite the roof, the roof including a dispensing port with a rigid engagement wall defining the dispensing port, the rigid engagement wall being directed downward toward the open mouth and engageable with the coupling structure of the rigid mouth in sealable relationship to prevent moisture from transferring through the sealable relationship.

10

The floor of the refill package is preferably of cellulosic board construction, especially a laminate board. Alternatively, the floor may be formed of a foil of a plastics material such as a polyester, polyamide or polyolefin and any aluminized foil. Side walls are normally present in the refill and join the deck and floor walls along edges of the side walls. The floor can extend beyond the edges of the side walls forming a perimeter flange, the flange abutting the lower edge of the open mouth of the housing.

20

A lid hingedly connected to the deck of the cover housing can be provided for sealably engaging in a closed position within the dispensing port. Advantageously the walls other than the floor of the refill package may be injection molded, particularly as a thermoformed article. An injection molding process may also be used to provide the cover housing. The latter may be constructed of materials more rigid than that forming the refill package. A hard cover housing along with the coupling structure to the deck of the refill package ensure not only a good seal but also

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prevent the refill package collapsing as towelettes are emptied therefrom.

#### BRIEF DESCRIPTION OF THE DRAWING

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Further objects, features and advantages of the present invention will become more evident from consideration of the following drawing in which:

10 Fig. 1 is a plan perspective view of one embodiment according to the present invention; and

Fig. 2 is a cross-sectional view along line 2-2 of Fig. 1.

15

#### DETAILED DESCRIPTION OF THE INVENTION

The present inventors have devised a refillable towelette product dispenser that has a single seal connection. Vapor loss is controlled to a high degree by  
20 the improved configuration. A single seal for the dispenser system is achieved by a rigid engagement wall around the dispensing port of a cover housing sealably coupling with a rigid mouth aperture of a refill package. Not only are the refill and housing sealed but these components are also held  
25 together against separation.

Fig. 1 illustrates a towelette product including a cover housing 2 formed with a roof 4 on an upper surface and an open mouth 6 defined by lower edges 8 of the housing which  
30 is opposite the roof. A dispensing port 10 traverses the roof allowing dispensing of individual towelettes from a

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stack of towelettes **12**. A rigid engagement wall **14** defines the dispensing opening and is directed downward toward open mouth **6**. Closure of the dispensing port is achieved with a lid **16** hingedly connected to the roof. In its closed position, the lid is engageable within the dispensing port through a friction fit between a valve fitment **18** of the lid and the rigid engagement wall.

An internal cavity **20** is formed within the cover housing. A refill package **22** is protectively stored within the internal cavity.

The refill package contains the stack of towelettes. The package is constituted of walls including a deck **24** and a floor **26** on respective upper and lower faces in parallel relation to one another. The deck includes an aperture **28** allowing access and egress to the stack of towelettes. A rigid mouth **30** circumscribes the aperture. A coupling structure in the form of a detent bead **32** juts inward toward a center of the rigid mouth. Many alternative coupling structures can be utilized. Engagement can be through a groove and tongue or a tapered LEUR locking arrangement preventing passage of moisture therebetween. Walls of the refill package are preferably of thermoform construction. These walls are preferably less robust than those forming the cover housing and being formed of a thinner gauge material and/or a more flexible plastics material. Foil may constitute the refill package walls as alternative to the thermoform. Irrespective of the wall construction, the floor of the refill is advantageously of board-like rigidity, preferably a cellulosic board. Side walls **34** join

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the deck and floor. The latter extends beyond the edge of the side walls forming a perimeter flange 36. This flange abutts the lower edge 8 of the open mouth of the housing. A tight seal is achieved between the flange and the lower edge as a result of the refill and the cover housing being tightly interengaged through the rigid engagement wall and coupling structure. Especially when the walls of the refill package are of thermoform construction, it is advantageous for the floor to be heat sealed against edges 38 of the side walls.

Prior to insertion within the cover housing, the aperture of the refill package may be sealed by a removable adhesive foil.

Proper orientation is important when placing the refill package within the internal cavity of the cover housing. Proper orientation may be achieved by complementary guide elements 40, 42 on an external wall surface of the refill package and on an internal surface wall of the cover housing, respectively. Representative guide elements include recess/projecting detent formations and interference ledges.

The foregoing description illustrates selected embodiments of the present invention. In light thereof, various modifications would be suggested to one skilled in the art, all of which are within the spirit and purview of this invention.

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**CLAIMS**

1. A towelette product comprising:
  - a stack of flexible towelettes;
  - 5 a refill package containing the stack of towelettes, the package having walls forming a deck and a floor on respective upper and lower faces in parallel relation to one another, the deck including an aperture allowing access and egress to the stack of towelettes, the aperture being
  - 10 circumscribed by a rigid mouth with a coupling structure; and
  - a cover housing having an internal cavity, the housing forming a roof on an upper surface and an open mouth along a lower edge opposite the roof, the roof including a
  - 15 dispensing port with a rigid engagement wall defining the dispensing port, the rigid engagement wall being directed downward toward the open mouth and engageable with the coupling structure of the rigid mouth in sealable relationship to prevent moisture from transferring through
  - 20 the sealable relationship.
2. A product according to claim 1 wherein the walls other than the floor of the refill package are of thermoformed construction.
- 25 3. A product according to claim 1 or 2 wherein the floor of the refill package is of cellulosic board construction.
4. A product according to any one of the preceding claims
- 30 wherein the refill package further comprises side walls joining the deck and floor walls along edges of the side

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walls, the floor extending beyond the edges of the side walls to form a perimeter flange, the flange abutting the lower edge of the open mouth of the housing.

5 5. A product according to claim 4 wherein the flange is heat sealed to the side walls.

6. A product according to any one of the preceding claims wherein the towelettes are impregnated with a fluid  
10 composition which comprises an evaporatable solvent.

7. A product according to any one of claims 1 to 5 wherein the towelettes are impregnated with a dry chemical composition sensitive to activation with moisture.

15

8. A product according to any one of the preceding claims wherein the cover housing further comprises a lid which is hingedly connected to the roof and which is capable of occupying a closed position engageable within the dispensing  
20 port.

9. A product according to any one of the preceding claims wherein the cover housing is constructed of material more rigid than the material forming the walls of the refill  
25 package.

10. A product according to any one of the preceding claims wherein the coupling structure is an interference bead projecting away from a surface of the rigid mouth.

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Fig.1.

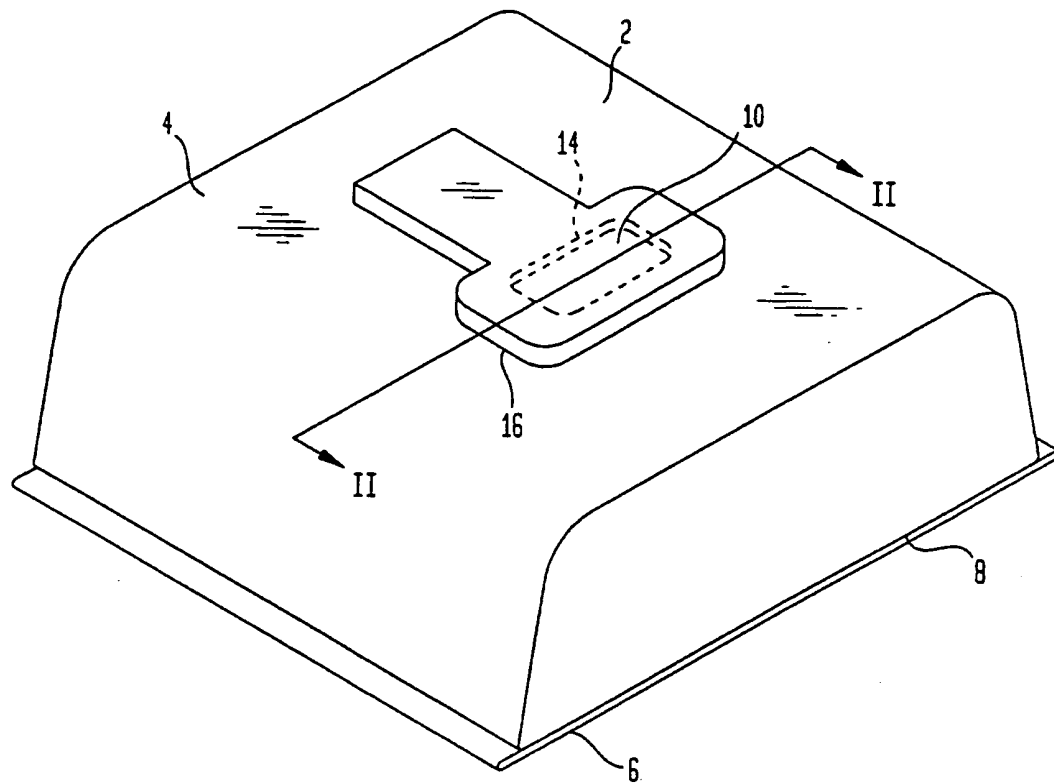
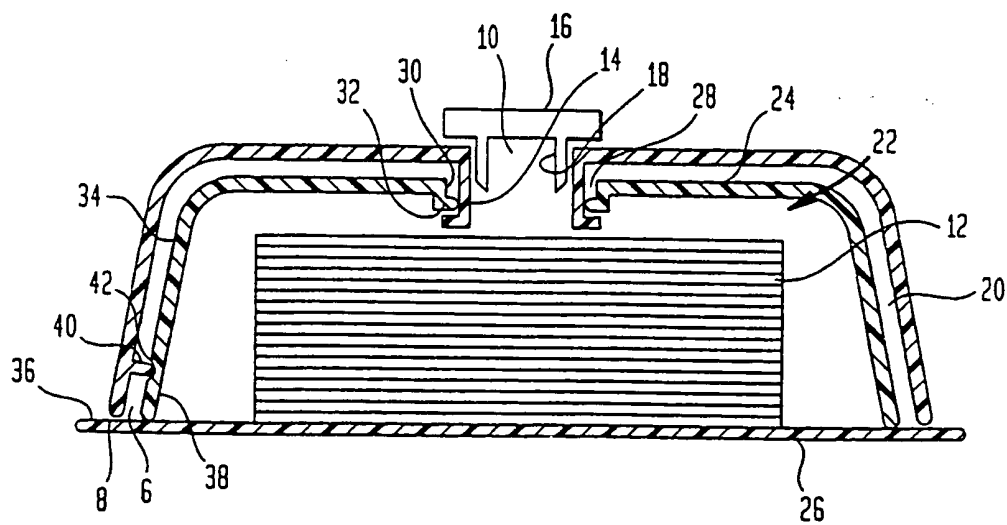
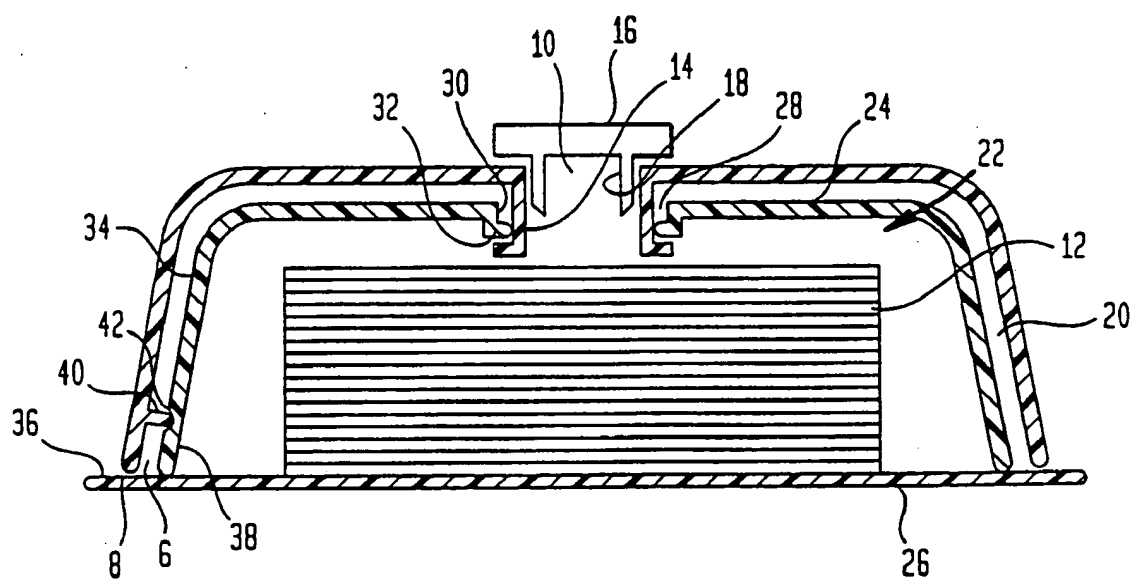


Fig.2.





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